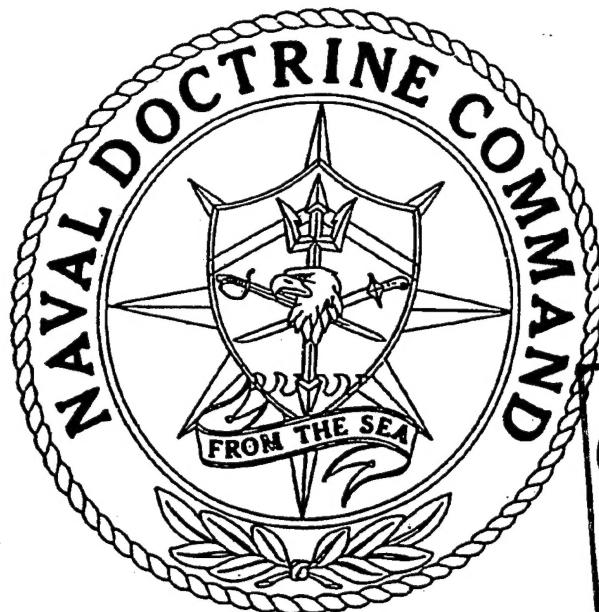


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NAVAL DOCTRINE COMMAND

Norfolk, Virginia



"Maneuver" or *Manoeuvre* Warfare for the U.S. Navy?

by

Dr. James J. Tritton

July 1995

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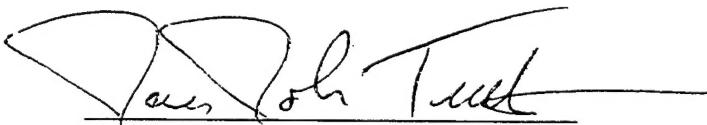
NAVAL DOCTRINE COMMAND
Norfolk Virginia

Rear Admiral F.L. Lewis
Commander

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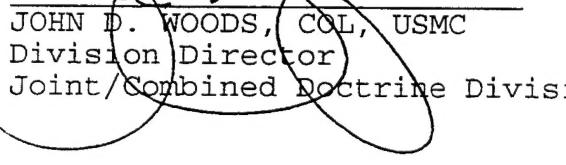
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This report was prepared by:



DR. JAMES JOHN TRITTEN
Doctrine Specialist

Reviewed by;


JOHN D. WOODS, COL, USMC
Division Director
Joint/Combined Doctrine Division

Released by;


C. M. deGRUY, CAPT, USN
Chief of Staff

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"Maneuver" or Manoeuvre Warfare for the U.S. Navy?¹

By
James J. Tritten

Introduction

Today, we face the possibility of a new shift in paradigms not based upon any introduction of new technology. That paradigm shift grows out of the overall shift in fleet missions to be more focused on operations from the sea to the shore and applying the "maneuver" warfare concepts of land warfare for use at sea. When the Naval Doctrine Command stood up in March 1993, the U.S. Marine Corps brought with it a well-developed doctrine for "maneuver" warfare. The marriage of U.S. Navy and Marine Corps doctrinal development effort cannot help but influence U.S. Navy Service-unique doctrine--including the embracing of "maneuver" warfare. The U.S. Navy cannot help but also be influenced by the acceptance of this form of warfare by the U.S. Army and the U.S. Air Force.

In exploring the concepts of "maneuver" warfare, however, we have had over a decade of ground-oriented explanations available from which to draw upon and develop the maritime parallels.¹ The Marine Corps and a small group of amphibious-experienced U.S. Navy officers have done an excellent job of developing the concept of "maneuver" warfare. Today we readily accept General Douglas MacArthur's New Guinea campaign during World War II as the model for modern "maneuver" warfare from the sea to the shore.²

What remains to be done today is to more fully investigate the concept of "maneuver" warfare in the deep water environment so that navy officers throughout the world can internalize the concept and then be more equal partners in the full development of multi-Service naval "maneuver" warfare doctrine. More examples of ground warfare are not the answer to how to do this. We have sufficient literature on both the theory of "maneuver" warfare as well as historical ground or amphibious examples. What we need today, and soon, are well-researched examples of navy operations, battles, engagements, strikes, and systematic combat actions that exemplify the theory of "maneuver" warfare at sea.

We also need those examples of navy officers, from any country, who have given the subject of "maneuver" warfare their full attention and whose thoughts have been committed to paper. The Naval Doctrine Command did a search of the literature when it

¹ The views expressed by the author are his alone and do not necessarily represent those of the U.S. government, Department of Defense, or the U.S. Navy.

first came to grips with the term "doctrine" and drew upon the writings of previous navy officers who had first attempted to explore the concept. Results of a literature search for maritime concepts of "maneuver" warfare are thus far limited, but there is at least one French admiral who developed a well-thought out theory for such warfare that is totally consistent with the ideas of Sun Tzu and more modern advocates of "maneuver" warfare.³

In addition, the Imperial Japanese Navy made a thorough study of such "maneuver" warfare doctrine and embraced it prior to World War II, about the same time as they formulated their initial war plans against the U.S. According to their doctrine:

"The keys to battle are initiative and concentration. To get the benefit of initiative it is necessary to observe skillfully the military situation and, taking advantage of opportunities and exploiting the enemy's weakness, attack him speedily and boldly. To acquire the advantages of concentration it is necessary always to ensure good contact between various units taking part in an operation together, attack a part of the enemy's forces with all of ours, and seize opportunities."⁴

One scholar has argued that it was because the Japanese failed to remember the teachings of Sun Tzu and instead became fascinated by German models that they prepared poorly for war with America.⁵ The influence of Sun Tzu and other ancient Chinese philosophers on navy warfare has not been well explored in the West.

This report will explore how the various concepts of warfare apply to navies and how "maneuver" warfare fits. Navy "maneuver" warfare will be examined for its theory as well as applicability for the future. Where it enhances understanding, historical examples of "maneuver" warfare will be introduced. A more fully developed historical presentation of "maneuver" will appear in subsequent reports. Finally, appropriate conclusions will be drawn. Due to the extensive existing literature on "maneuver" warfare ashore, and from the sea to the shore, discussion of "maneuver" warfare herein will be limited to concepts primarily at sea.

Origins of "Maneuver" Warfare

The original philosophy underlying the concepts of modern "maneuver" warfare comes from China and the Roman empire of Julius Caesar. The U.S. Marine Corps has embraced the concepts of Sun Tzu contained in *The Art of War*, written around 400 B.C.⁶ Indeed, in their capstone Service-unique doctrinal publication, *Warfighting*, FMFM-1, Sun Tzu is quoted at the beginning of the chapter on "The Theory of War":⁷

"Invincibility lies in the defense;
the possibility of victory in the attack.
One defends when his strength is inadequate;
he attacks when it is abundant."

A further understanding of the value of knowing when to attack, and when not to attack, can be found in other classical Chinese literature, such as: the *Ssu-ma Fa*, the *Wu-tzu*, the *Wei Liao-tzu*, the *T'ai Kung's Six Secret Teachings*, the *Three Strategies* of Huang Shih-kung, and the medieval *Questions and Replies* between T'ang T'ai-tsung and Li Wei-kung.⁸ Another Chinese classic, Lao Tzu's *Tao Te Ching* (*The Book of the Way*), which may predate Sun Tzu by a few hundred years, teaches that:

"When two great forces oppose each other,
the victory will go
to the one that knows how to yield."⁹

Whereas the Chinese ground forces doctrine may currently be generally biased toward long-term attrition warfare and the defense, ancient Chinese doctrine was oriented toward "maneuver" warfare and subduing the enemy without actually engaging him--due to then-particular geographic and demographic conditions. Although most American analyses of ancient Chinese combat doctrine emphasizes "maneuver," one Chinese scholar expresses incredulity over the West's placing of importance of the non-combative aspect of "maneuver." According to this scholar, the "maneuver" in ancient writings refers to deterrent actions--when combat forces actually meet, there is no question that they are supposed to fight traditional combat!¹⁰

"Maneuver" warfare, however, is generally cast today in more recent descriptive terms as being that style of warfare of the German Army versus the "attritionist" strategies of France, in World Wars I and II, and the Soviet Union in World War II. German Army doctrine during the inter-War years was based upon two field service regulations issued in 1921 and 1933.¹¹ German doctrine emphasized maneuver, mobility, the offensive, surprise, tempo, and the penetration of enemy defenses. Indeed, German Army doctrine called for one continuous battle with the commitment of reserves to ensure that the enemy was overwhelmed and momentum was not lost.

German Army doctrine also emphasized decentralization and initiative at the lowest levels of the chain of command. German Army doctrine emphasized the *auftragstaktik*, or task-oriented tactics that permitted the lower-echelon commander to operate within his senior's intent. An officer could ignore standing directives, naturally at his own risk, if he were responding to local conditions. French Army doctrine, on the other hand, was

centralized and emphasized control. As a result of their doctrine, the Germans could count on locally-initiated counterattacks while fighting on the defensive. The French Army needed to be ordered into a counterattack.

The catastrophic and unexpected failure of the French Army in the early days of World War II can be, in great part, attributable to their strategy and doctrine for war.¹² Simply put, the French Army attempted to fight an attrition-based war based upon defense, firepower, centralization, and control in a series of sequential methodical battles. The German Army, on the other hand, had adopted a doctrine of "maneuver" warfare of one continuous battle that made the French response inadequate and self-defeating. Unfortunately, due to the nature of French Army doctrine, there was no alternative solution. When the need for change was recognized, after defeats in the first phase of the war, it simply was too late.

Another German technique being resurrected is that of *fingerspitzengefühl*, or finger-tip feel for the battlefield, by the combat leader.¹³ Championed by General Hermann Balck and General Major Friedrich von Mellenthin, the commander's *fingerspitzengefühl* would appear to be a Teutonic version of Napoleon's concept of *coup d'oeil*,¹⁴ or the inner eye, a concept fully consistent with "maneuver" warfare.

Annihilation, Attrition, and "Maneuver"

Complicating any discussion of "maneuver" warfare is the lack of universal acceptance of the concept itself. For example, the noted German military historian Hans Delbrück argues that there is no such thing as pure "maneuver" warfare.¹⁵ On the other hand, Clausewitz pays homage to this form of warfare and nominates the Italian Raimondo Montecuccoli and Prussian Frederick the Great as its most skillful practitioners.¹⁶

The Italian lieutenant general Raimondo Montecuccoli fought in the 17th Century as a field marshal for the Austrian Hapsburg empire. He won more than forty battles in his lifetime. Additionally, Montecuccoli wrote a great deal on military art and strategy. This included *Tratto della guerra* [Treatise on War], his major work, as well as *Delle battaglie* [Battles], *Tavole militari* [Military Tables], and *Della guerra con il turco in Ungheria* [War with the Turks in Hungary]. Montecuccoli gave equal weight to wars of annihilation and those of attrition and he practiced combat in which maneuver was equally important as the clash itself. The military art of Montecuccoli is the art of fighting well to win.¹⁷

Another complication to the concept of "maneuver" warfare is the improper juxtaposition of this form of warfare against

attrition warfare.¹⁸ Recent advocates of "maneuver" warfare posed their "maneuver" warfare alternative as the smarter form of warfare in a 1980s Soviet-NATO conflict in Europe as a part of the military reform movement. The result of this advocacy has been intellectual gymnastics as other thinkers attempted to ignore the lessons of history. Simply put, "maneuver" warfare is not an alternative to attrition warfare--it is a method of warfare that can be used either as a part of attrition warfare or as a part of warfare of annihilation. A short review of the theory of these two basic forms of warfare is in order.

The first division of warfare into annihilation and attrition was by Montecuccoli.¹⁹ Montecuccoli's theories were accepted by Frederick the Great. Prussian General, and world renown military theoretician, Karl von Clausewitz also accepted this bifurcation and was in the middle of revising *Vom Krieg* to encompass the theory when he died.

More recent acceptance of these theories was by the Prussian Generals Helmuth von Moltke [the Elder] and Alfred von Schlieffen.²⁰ While Chief of Staff, Moltke developed the concept of the continuous strategic-operational sequence which would defeat the enemy in one great and decisive battle of annihilation --the *vernichtungsschlacht*. Schlieffen further developed the concept of the rapid decisive campaign of annihilation in his campaign planned for Europe prior to World War I.

This concept of annihilation and attrition as two opposite poles was further refined by Delbrück, who termed the two types of warfare *niederwerfungsstrategie* (annihilation) and *ermattungsstrategie* (exhaustion).²¹ Perhaps a better German word for attrition warfare is *abnuetzungsschlacht*. The separation of warfare into annihilation and attrition has a long history in German military theory.

The most complete treatment of the two concepts is to be found in the post-World War I lectures and writings of Soviet General and Professor Aleksandr A. Svechin.²² His book *Strategy* was essentially devoted to advocating attrition war over that which he termed "destruction." Svechin wrote probably the most exhaustive treatise of the two different types of warfare with numerous historical examples.²³ He is also credited with originating the concept of operational art and the operational-level of warfare based upon his experiences in the Russo-Japanese War (1905).

In annihilation warfare, *niederwerfungsstrategie*, victory follows a decisive engagement, *vernichtungsschlacht*, against the center of gravity--the enemy fleet in navy warfare. A campaign of annihilation was the basic strategy (War Plan Orange) developed by the U.S. Navy and Army for warfare in the Pacific prior to

World War II. It was also the basic form of combat under Imperial Japanese Navy doctrine.²⁴ Annihilation warfare subordinates all actions to a single supreme purpose. Under annihilation, withdrawal is normally not considered an honorable alternative. Warfare by annihilation ashore has been successfully practiced by relatively few commanders--Alexander the Great, Hannibal, Julius Caesar, and Napoleon Bonaparte--but it has been an accepted way of war at sea for centuries.

The navy counterpart to attrition warfare, *abnuetzungsschlacht*, is the well-known navy concept of *guerre de course*. Examples include convoy defense practiced in the World War II Battle of the Atlantic and other forms of warfare where one single engagement or battle is not crucial to the outcome. Despite the plan to fight a war of annihilation in the Pacific during World War II, Admiral William Halsey, USN, actually engaged in a war of attrition against the Japanese--although he was continually seeking a decisive battle of annihilation, *vernichtungsschlacht*.²⁵ Attrition warfare, *abnuetzungsschlacht*, is realistic under today's environment and allows the commander a higher degree of flexibility. Under attrition, withdrawal is regularly considered an honorable alternative. Warfare ashore by attrition has been successfully practiced by many more commanders than has warfare of annihilation--Pericles during the Peloponesian Wars, Frederick the Great in the Seven Years' War,²⁶ Britain during the World War II air defense Battle of Britain, and by the Russians in their Second Great Patriotic War.

The obvious question is what then to do about this concept of "maneuver" warfare. Is it "maneuver" versus *niederwerfungsstrategie* or *abnuetzungsschlacht*? Actually, "maneuver" warfare is a philosophy of warfare that can serve to support either warfare of annihilation or attrition. Since modern naval warfare will still embrace aspects of annihilation and attrition warfare, we need to focus on the contributions that can be made by "maneuver" warfare to both. The greatest problem with the concept of "maneuver" warfare doctrine in the United States is that most native speakers of American-English assume that they know what the concept means because they recognize the word "maneuver." For this reason alone, we should adopt a new term.

The current phrase "maneuver" warfare is most closely identified with the U.S. Marine Corps. Any investigation of this concept therefore treads on written Marine Corps Service-unique doctrine and presumably could affect Marine Corps programmatic. It is hoped that the Marine Corps will not view the investigation of "maneuver" warfare at sea as a threat--the purpose of this investigation is to help the U.S. Navy come to grips with the concept of "maneuver" warfare so that it can be an equal partner in multi-Service naval doctrinal development.

A major lesson to be learned from the doctrine of the Imperial Japanese Navy prior to World War II was that good doctrinal concept development gave way to sloganeering and the use of catchy phrases which were not subject to analysis and criticism. These included: "using a few to conquer many" (*ka o motte, shû i seu-su*) and "fight the enemy on sight" (*kenteki hissen*); that had the distinction of being a mantra that was accepted on faith and was not allowed to be questioned.²⁷ This mystical approach to naval doctrine did not serve the Imperial Japanese Navy well--Japan fought the coming war with faulty doctrine. The failure to open up "maneuver" warfare to scrutiny by outsiders will not serve the U.S. Marine Corps well either.

Navy "Maneuver" Warfare Doctrine Explained

The most comprehensive investigation of navy "maneuver" warfare to date has been completed by the French Navy. It is here that we must first look to get a nautical understanding of the concept. Following World War I, the French Navy came under the influence of the writings of Admiral Raoul Castex. His five volume *Théories stratégiques*²⁸ is perhaps the most complete theoretical survey of maritime strategy to ever appear. A sixth volume, *Mélanges stratégiques*, was published in 1976 after his death. The essence of Castex's work can be found in a summary of some 2,600 pages of original text in French recently translated by the U.S. Naval Institute into 428 pages in English in *Strategic Theories*.²⁹

Castex recognized that his task was to provide doctrine for a second-ranking navy and not one that would ever hope to challenge a first-rate fleet. He formulated the concept of *la force organisée*, the main force which could be mustered for a limited counteroffensive against a superior enemy which would be manipulated so that it could not bring its full strength to bear. There is some similarity between Castex and some of the writings of Sir Julian Corbett in Britain.³⁰ Castex gave significant attention to commerce raiding, raids, blockade, mine, and amphibious warfare. The centerpiece of his writings is strategic *manoeuvre* and not battle.

Castex's writings played the same role that did those of Rear Admiral Alfred Thayer Mahan in the United States and elsewhere in the world--they were used as textbooks and points of departure for internal government position papers. Students at the *école de guerre navale* were still educated in traditional French naval doctrine of *guerre de course*, whereas students from foreign nations flocked to the *école supérieure de guerre* to study the latest developments in annihilation warfare ashore.³¹ *Théories stratégiques* was translated into Spanish by the Argentine Navy and various sections have been translated into

Serbo-Croat, Greek, Japanese and Russian. It has been widely used in Latin America and Mediterranean countries.

The renowned American strategic thinker Bernard Brodie paid Castex homage in his *A Layman's Guide to Naval Strategy* by stating that "the underlying value of the teachings of men like Mahan, Corbett, and Castex is still largely intact."³² In the revised 3rd. ed. of this book, re-titled *A Guide to Naval Strategy*, Brodie's annotated reading list contains the following notation for Castex's *Theories stratégiques* (emphasis added):

"This great work by a French naval officer is in the classic tradition of Mahan and Corbett, which it carries forward in its examination of the strategic lessons of World War I. Castex's ideas on submarine warfare were translated into German and greatly influenced German planning for the submarine campaign of World War II."³³

Castex's concepts of *manoeuvre* warfare doctrine are not ideal, of course, in guiding us to a new paradigm in the next century. On the other hand, the use of the term *manoeuvre* rather than "maneuver" demands that both the writer and reader recognize that the concept being advanced is different. The problem with using the word "maneuver" in English is that despite over a decade of trying, many navy officers have failed to understand the subtleties associated with the concept because they assume that they know what "maneuver" means.

For example, Commander Linton Wells II, USN, gets the theory of "maneuver" warfare right in a December 1980 U.S. Naval Institute *Proceedings* article, but then applies this theory to explain only why navies need to perform various movements prior to weapons launch, while defending themselves, and during antisubmarine warfare. Wells understands that an objective of "maneuver" warfare is to introduce ambiguity into the enemy commander's picture of the tactical situation, but he fails to get beyond the movement as maneuver paradigm in his analysis.³⁴

Manoeuvre warfare is not about "movement," although "moving" forces can be an extremely important element of *manoeuvre*. This report will deliberately use the French and British spelling *manoeuvre* to refer to a *manoeuvre* warfare combat doctrine at sea; while it retains the English word "maneuver" for this type of doctrine ashore or from the sea to the shore. "Maneuver" warfare is a term that is counter-productive to communicating its real intent and does a disservice to the excellent ideas contained within its theory. The theory deserves a better title.

Manoeuvre Warfare Theory

Manoeuvre warfare doctrine, more art than science, is about planning and executing skillful operations or combat actions that depend upon mental agility rather than simply the application of brute force. At a minimum, *manoeuvre* warfare pits strength against weakness. *Manoeuvre* warfare doctrine creates favorable conditions for combat actions at sea in which one multiplies the greatest possible return for the effort expended. An analogy is chess in which one always is looking for an opportunity to confront the enemy in unexpected ways. The proper analogy is "move→move→move" rather than "move→countermove→move." Such concepts of *manoeuvre* warfare need to be both in operational doctrine and in planning doctrine.

Manoeuvre warfare doctrine attempts to create favorable situations to control or alter events. By control, however, we do not necessarily need order--indeed, *manoeuvre* warfare is comfortable with the chaos of combat, but strives to ensure that battle conditions are not imposed by the enemy. In the beginning of the 18th Century, the English attitude toward navy doctrine generally split into two camps.³⁵ The first camp emphasized the ability of the line-ahead to bring the maximum number of guns to bear on the enemy. The second group placed more emphasis on independent maneuver and is referred to by some historians as the "mêléeists." The *manoeuvre*-oriented mêlée doctrine attracted some of the more dashing English commanders who did not want to be as bound by rules and had the skills to master the freedom of *manoeuvre* warfare. This *manoeuvre*-oriented mêlée doctrine has continued to be advocated by many navy commanders since then.

Clausewitz talks of a "trinity" of warfare in his classic *Vom Krieg*. War consisted of rational, irrational, and non-rational dimensions. Where seeking to dominate the rational portions of war, policies and doctrine can help. Where seeking to dominate the irrational dimensions of warfare, emotion--such as inspirational combat leadership--is a virtue. Where warfare is non-rational, such as with weather and the chance associated with the "fog" of war, the *manoeuvre*-oriented mêléeist seeks to make such uncertainty his friend.

Manoeuvre warfare doctrine seeks to dominate fate rather than yielding to it. It implies seizing the initiative, thus forcing the enemy to react rather than to dominate the battlespace. Initiative does not imply the mindless offensive; *manoeuvre* warfare doctrine accepts the legitimate role of both the offensive and defensive forms of warfare; during both of which initiative can play a critical role.

Over-reliance on offensive warfare paradigm is directly attributable to the defeat of the Imperial Japanese Navy in the

Pacific during World War II. At the Battle of the Coral Sea (May 1942), the Japanese striking force attempted to seek out the allied battle fleet instead of remaining with its own transports in a defensive posture. Japanese doctrine had no developed concept for defense of their carrier battle forces, let alone the transports, in any other manner than an offensive strike against the enemy.³⁶

Admiral Raymond Spruance, USN saw the virtue of the defensive and operated initially in a defensive posture at the Battle of the Philippine Sea (June 1944) resulting in a major American victory. Spruance sought a decisive defensive engagement, *vernichtungsschlacht*, on his own best terms rather than fighting on the offensive against both enemy aircraft and antiaircraft defenses. The lesson is to not rely only on the offensive form of warfare, but to also develop theories for the defensive. Both can be used to obtain a decisive battle and both have a role in *manoeuvre* warfare.

A Vision of the Future Manoeuvre Warfare Battlespace at Sea

Forecasting the future battlespace is extremely difficult. One way is to present a vision of the future and to then develop supporting concepts with more detail.³⁷ The vision of *manoeuvre* warfare doctrine theory outlined above leads us to a series of open-ended issues which need consideration. From these questions, we can better understand the concepts which we can then test in games and fleet exercises. With validated concepts, we can then turn to doctrine development and programmatic requirements. Obviously we need to first look for other examples of *manoeuvre* or "maneuver" warfare theories and then search for the historical navy examples which will make us more comfortable with the vision. But we first need to ask ourselves how naval power will be used in a modern and non-Cold War context?

Surface Annihilation Warfare

Manoeuvre warfare doctrine generally states that the enemy should not be engaged unless it is necessary to the mission and then only from a condition of advantage. Recognizing that the concept was originally designed for a weaker navy, we need not adopt every detailed element for the U.S. Navy today. Given the state of the world's navies, the U.S. Navy probably can deal with regional enemy surface fleets, generally light units, in one quick and decisive strike or engagement, *vernichtungsschlacht*, during the initial phase of a future contingency operation. Simultaneous and decisive strikes as part of a modern battle of annihilation against the full depth of the enemy battlespace are not only possible against most potential enemy surface navies of the world, they are also a good idea.

If we do not eliminate enemy surface forces all at once, we then must posture navy forces in defense against strikes and raids. A decisive engagement, on the other hand, precludes the enemy even retaining his surface forces as a fleet-in-being. Either situation would require us to blockade or provide a navy covering force rather than our use of our own navy forces to support operations from the sea to the shore--the primary aim of future naval operations. In short, deal with an enemy surface fleet all at once and move on to other things. This concept of striking from a position of advantage is fully consistent with *manoeuvre* warfare doctrine.

Exploitation Phase

With a navy annihilation warfare doctrine, *niederwerfungs-strategie*, for defeat of an enemy surface fleet in one decisive battle, *vernichtungsschlacht*, there must be a subordinate doctrine for an exploitation phase. In navy attrition warfare, *abnuetzungsschlacht*, we also need theories of what to do after an individual battle. Simply put, if the desired end state of a battle or an engagement is either the immediate annihilation of the enemy surface force or its whittling down by a series of attrition battles, then the victorious commander has to be supported by an established doctrine that includes guidance about both how achieve initial success and then how to exploit initial success to achieve the desired end state.

The issue of exploiting the initial victory has come back to haunt many commanders over history--each being criticized during his lifetime, and subsequently in history, for not having fully exploited his immediate success with subsequent destruction of the enemy force as it left the battlespace. For example, during the Thirty Years War (1618-1648), in which France became the dominant power on the continent of Europe, French Marshal Henri de la Tour d'Auvergne, Vicomte de Turenne, achieved the withdrawal of Holy Roman Empire forces from a city, but then he chose to not exploit this immediate success with a pursuit and complete annihilation of the enemy. In a subsequent encounter in 1674, Turenne maneuvered Austrian General Count Raimondo Montecuccoli and William Frederick, the Great Elector of Brandenburg, out of Alsace without engaging them in battle.³⁸ These are classic examples of "maneuver" warfare ashore--where the political objective was reached without a major battle. In his writings, Clausewitz expresses his disdain for such "maneuverist" generals who sought to attain a decision without battle.³⁹

Guidance for an exploitation phase is not required for pure maneuver where there is no battle intended. Nor is such guidance necessary for a strike or raid where rapid damage in one brief effort is all that is attempted. Doctrine for battles,

engagements, and major operations, on the other hand, must include the initial stages of contact with the enemy, the main combat phase, and an exploitation phase where the commander achieves his desired end state.

Most times sufficient strength can be massed against enemy weakness during the pursuit--or exploitation--phase of a battle. Capitalizing on the opportunities afforded by the exploitation phase of a battle is totally consistent with Clausewitz's study of war.⁴⁰ If navies are to also adopt "maneuver" warfare doctrine, but retain the desire to actually engage in combat at sea, then they also are going to have to come to grips with subordinate doctrine outlining policies for the exploitation phase of battle. There have been notable examples where navy commanders have failed to master the exploitation phase of battle.

French Admiral Anne-Hilarion de Costentin, Comte de Tourville, failed to exploit a major victory against the combined English and Dutch fleets at Béveziers [Beachy Head] (1690). British Admiral Lord George Brydges Rodney failed to exploit his victory at the Battle of the Saints (1782) and the innovative Admiral Lord Richard Howe did the same at the Glorious First of June (1789). Japanese Admiral Itô Yûkô achieved a decisive victory over China at the Battle of the Yalu [Yellow Sea] (1894) and was severely criticized for not exploiting the victory--thus allowing an enemy fleet-in-being to remain.

There were a few very notable examples of failure to exploit the battlefield victory during World War II. Admiral Mikawa Gun'ichi's failure to exploit his victory after the Battle off Savo Island (August 1942) has been attributed due to a failure in doctrine.⁴¹ Yet more careful research reveals that the World War II Imperial Japanese Navy *Battle Instructions* clearly required a commander to take advantage of the exploitation phase.⁴²

Of course Admiral Spruance's decision to remain and protect the invasion force instead of exploiting his victory at the Battle of the Philippine Sea (June 1944) led, in part, to the decision by Admiral Halsey, off Cape Engaño during the Battle of Leyte Gulf (October 1944) to not stay with the invasion force, but instead seek out the enemy's carriers. In short, if one's end state is to annihilate an enemy surface fleet, it must be done ruthlessly even as a part of a *manoeuvre* warfare doctrine. Victory may be determined by who leaves the battlefield in retreat, but the desired end state must go beyond this intermediate concept.

The need for an exploitation phase was fully understood in pre-War and World War II doctrine of the U.S. Navy. In the *War Instructions: United States Navy*, F.T.P. 43, 143 and 143(A), signed out in 1927, 1934 and 1944, the U.S. Navy outlined a

pursuit phase of combat, which is where the exploitation of the tactical victory would take place.⁴³ This pursuit phase was fully consistent with the concept of strength vs. weakness--a major part of *manoeuvre* warfare theory.

Need for Continued Attrition Doctrine

Enemy air and subsurface forces, however, probably cannot be eliminated with one quick decisive strike of annihilation and will thus have to be dealt with in attrition warfare, *abnuetzungsschlacht*, over time. This will include battles, the planned engagement as well as the unplanned meeting engagement, strikes, and raids. Here we will have more opportunity to use *manoeuvre* warfare concepts such as the temporary massing of firepower to deal with weaker enemy forces when and where we choose. Sequential combat actions will require the careful selection of the main areas for combat activity to pit strength against the principle objective (weakness) at the decisive time.

When dealing with an enemy force that cannot be defeated with one main effort, *vernichtungsschlacht*, it is well to remember the example of the Imperial Japanese Navy. Imperial Japanese Navy doctrine called for the destruction of a significant part of the enemy battle fleet in a first strike raid followed up by a subsequent decisive battle between enemy battle fleets. Japan did this against the Russians in 1905 and attempted to do this against the U.S. in 1941. The Japanese success at the Battle of Tsushima was not to be repeated in World War II. The lesson here is that, if one must plan for more than one strike to attain the desired end state, there is no guarantee that the opportunity or success will follow once the enemy is warned.

Defense

Defense under *manoeuvre* warfare doctrine requires that defending commanders not be enticed into unfavorable battle. Battle avoidance and escape must be portrayed as an honorable alternative. Initiative cannot be equated only with offensive combat actions. On the other hand, tactical-level defense generally is quite offensive and aggressive--even within an operational or strategic defensive.

Vital to an understanding of *manoeuvre* warfare doctrine are the concepts of security and protection. Security and protection conserve the fighting potential of own forces so that it can be applied later at the decisive point and time. Fortunately navies are well familiar and comfortable with such concepts and have a long history of operational security, deception, circuitous routing, zig-zag plans, smoke screens, scouting and reconnaissance, anti-scouting and counter-reconnaissance, screening, dispersal, convoys, mobility, the avoidance of mutual

interference, and offensive actions taken to suppress subsequent attacks. Naval architecture has made full use of armor, damage control, camouflage and deceptive painting, and direct defense capabilities to ensure the security and protection of navy ships.

Desired End State Without Battle?

Taking the initiative and achieving surprise because of successful security will allow the delivery of psychological shock which can stun the enemy and lower his combat potential. A recent example of such a *manoeuvre* warfare effort by a navy was the sinking of the *Belgrano* during the Falklands War of 1982. As the result of one strike by a submarine, the Argentine Navy was stunned and remained in port for the rest of the war. This was an exact example of how to apply strength to stun the enemy and protect one's own forces by doing so.

Planning *Manoeuvre*

There is also an extremely important planning aspect to *manoeuvre* warfare doctrine. Once we get beyond the point of thinking that *manoeuvre* warfare doctrine is about movement, we realize that the concept of *manoeuvre* must be taught at our war colleges and be made a routine part of our planning process. *Manoeuvre* theory needs to drive deliberate and crisis planning as well as execution planning and tactical and operational innovations during actual combat operations. We cannot expect our officers to be able to innovate during battle unless innovation is made a regular part of their training and suitable rewards are offered for innovators. Also, *manoeuvre* warfare doctrine requires the absolute security of plans in order to ensure full freedom of action by the commander in the field.

Problems Associated with *Manoeuvre* Warfare

When trying to translate a ground forces concept of operations to warfare at sea, there are some difficulties which must be addressed. It does not appear that any of these issues present insurmountable obstacles, but all bear close scrutiny.

Strength Against Weakness

Strength against weakness, as a central element of "maneuver" warfare ashore, has had some problem areas when moving from theory to practice in air warfare. For example, rather than only attempting to target enemy hardened and defended nuclear offensive systems with our own nuclear offensive systems (strength versus strength), we attempted to also match strength against weakness. Targeting of non-hardened and undefended military-economic "bottlenecks" is an alternative to "counterforce" targeting of enemy nuclear systems. Although this

would be both an example of nuclear and conventional bombing "maneuver" warfare, the creation of economic models of target nations is extremely difficult--to the point where one cannot really prove that the desired political objectives can be achieved through attacks against "bottlenecks."⁴⁴

Still, the theory of targeting only "bottlenecks" has merit and resulted in considerable attention during the Cold War era. It continues to receive attention today in any discussion of strategic bombing in air warfare. When joint, naval, or navy air theories attempt to wrestle with "maneuver" warfare doctrine, they will need to be aware of the problems associated with "bottlenecks" associated with strength against weakness.

Windows of Opportunity

Another problem with "maneuver" warfare theory is that critical vulnerabilities of centers of gravity may only be critical during short windows of opportunity. Under *manoeuvre* warfare doctrine, forces are shifted from secondary to main areas of combat actions in order to mass them for the main effort during a window of opportunity. It is not easy to know when windows of opportunity are going to be available, unless such windows are created by one's own actions. In this case, forces may be shifted from main to secondary and then back to primary combat actions to create and then take advantage of windows of opportunity.

Creating diversions to allow a window of opportunity to present itself in a main theater is risky because of the pressure to succeed in every military combat action being undertaken. Such manipulation of secondary efforts requires that we not allow highly visible secondary efforts to sidetrack the main efforts--a historical problem. Naval, joint, and multinational military organizations must be responsive to such flexibility in tasking if *manoeuvre* warfare remains our preferred doctrine.

Defense

Defense of specific land areas under "maneuver," warfare doctrine is transitory. Yet "maneuver" warfare is associated most strongly in the U.S. with the Marine Corps, who would not like the U.S. Navy to abandon them in an amphibious objective area. Hence, although "maneuver" calls for some degree of flexibility in defense of fixed areas, an amphibious objective area must be defended or forces withdrawn--preventing navy forces from leaving the immediate area until there is absolute command of the air and sea.

A related issue involves training. How can we ensure that the defensive is given sufficient emphasis in training when the

military is biased toward taking offensive actions as the answer to the call to arms? *Manoeuvre* warfare requires a blending of both the offensive and defensive, and neither should be viewed as being inherently unsatisfactory. The true master of *manoeuvre* warfare will use either when it is to his advantage.

Synchronization

It would appear that the concepts of "maneuver" warfare are at odds with those of the general desire for ground forces to synchronize actions by various combined arms. This problem may appear more difficult to resolve for ground forces, but the basic problem may haunt the development of air and navy doctrine as well. The basic split between "formalists" who preferred coordinated line-ahead doctrine for fleets and the *manoeuvre*-oriented *méléeist* is an excellent example of the problems with synchronization at sea. The *manoeuvre*-oriented *méléeist* was quite content with a minimum of direction and a maximizing of taking advantage of opportunities.

Organizational Problems

The U.S. Navy has already learned the lessons of the need to be more integrated with the Joint Forces Air Component Commander (JFACC). Is it ready to assume the full role of the JFACC from its afloat location or should there be a division of labor between a maritime and shore JFACC?⁴⁵

If the naval Services fully develop their "maneuver"/*manoeuvre* warfare doctrine, and such doctrine is absent from the U.S. Air Force, how can we fight in the air together? Will targeting recommended by the Joint Targeting Coordination Board (JTCB) be different if it is run by U.S. Air Force officers or U.S. Navy officers? Can a U.S. Air Force-led Area Air Defense Commander (AADC) provide defense for naval units operating under "maneuver"/*manoeuvre* warfare doctrine?

The U.S. Coast Guard is to be incorporated within the U.S. Navy in time of war. Even in other times, there is a very close relationship between these two Services. What are the views of the U.S. Coast Guard on *manoeuvre* warfare? If the Coast Guard continues to emphasize operations other than war (OOTW), how will we be able to rapidly be assimilated into the U.S. Navy without having trained to *manoeuvre* warfare doctrine?

Not all concepts for the future battlespace are dependent upon the individual Services to implement them. For example, as we translate our "maneuver"/*manoeuvre* warfare vision of the future battlespace to actual doctrine, the U.S. Navy will be dependent upon new organizations, such as the U.S. Atlantic Command (USACOM) to execute them. This new organization has the

role as the primary Commander-in-Chief (CinC) for training conventional armed forces assigned to the continental U.S. Another CinC that has an independent training role is U.S. Special Operations Command (USSOCOM). Will the U.S. Navy's future vision for "maneuver" warfare be accepted by USACOM and will they train forces in accordance with joint or naval doctrine? Will USSOCOM continue to buy their own hardware and train their own forces or will they coordinate their vision of navy special warfare with doctrine developed by the U.S. Navy?

Training for joint operations is done in accordance with joint doctrine. The current version of Joint Pub 3-0, *Doctrine for Joint Operations*, addresses maneuver but primarily from the context of movement.⁴⁶ Although certain aspects of "maneuver" warfare are found throughout this publication, it does not contain a coherent explanation of "maneuver" warfare theory or doctrine. If "maneuver" warfare is to determine how the U.S. armed forces will actually fight in an integrated manner, then this concept must be embraced in joint doctrine. Similarly, there is standing NATO doctrine for fighting in a combined environment. Such doctrine also does not address "maneuver" warfare theory.

If U.S. armed forces operating in a major regional contingency are assumed to be part of an alliance, coalition, or other multinational force, they will be operating under multinational doctrine--currently devoid of "maneuver" warfare. In the multinational arena there is the option, however, of assigning national forces to separate individual sectors rather than fighting as an integrated whole. In such a case for ground forces, the U.S. contingent could operate under "maneuver" warfare doctrine--if it becomes joint doctrine--where other national contingents could operate otherwise.

In certain navy forces, such distinctions will be more difficult. For example, there are fully integrated standing navy forces, such as the Standing Naval Forces Atlantic and the Standing Naval Forces Mediterranean. Currently these forces are navy and not naval (including Marine Corps-type forces). If we see a change to NATO standing forces to include standing, or at least on call, amphibious forces as well, it may prove more difficult to integrate the Marine Corps portion of the naval forces unless the U.S. forces are segregated from naval infantry units from other countries.

Organizational Support of Manoeuvre Doctrinal Development

To foster consideration of a new vision of the future battlespace in the face of standing doctrine, navies probably need formal structures where new *manoeuvre* warfare doctrinal ideas are tested. These organizations already exist in the form of centers of excellence, such as: the Naval Strike Warfare

Center, the Surface Warfare Development Group, Submarine Development Squadron TWELVE and the Atlantic and Pacific Fleet Tactical Training Groups. All that would need to be done is to formalize lines of communications with those and similar organizations, with an eye toward *manoeuvre* doctrine development.

Indeed, there is a long history in many navies of the world of having squadrons of evolution, or other named units, whose function was to test new doctrine. This concept was once advanced by Rear Admiral Stephen Luce, USN, with regard to the role of the Naval War College and the U.S. North Atlantic Squadron. Historical test and development units were more singularly focused on operational doctrinal development rather than today's units which often spend a significant amount of their effort in support of programming.

New Opportunities for Manoeuvre?

Manoeuvre warfare requires that we take advantage of all strengths and opportunities to achieve the desired end state without resorting to traditional methods of brute force. Some possible opportunities are discussed below.

Technological Manoeuvre

Manoeuvre warfare doctrine has an important technological component. As we attempt to pit strength against weakness on the battlefield, we also should take advantage of any technological competitive advantages. If a current strength of the U.S. is its ability to dominate information, it would seem that an integral part of information warfare ought to include the pitting of this strength against enemy information weakness. Are there new technologies which support or will lead to new forms of warfare for which the enemy is not prepared? Periods of technological superiority are often transitory and they must be taken advantage of with speed in order to maximize the opportunity of surprise. We must also maintain the security and protection of new technologies that have not yet been revealed in combat.

The U.S. Navy need not only concentrate on 1970's stealth technology in order to build a fleet for the next century. Concentrating on unmanned vehicles can capitalize on the U.S. Navy's inherent strengths of staying power and relative invulnerability. There is no reason, however, that naval architects need be constrained by current design models.⁴⁷ Can we maintain technological primacy vis-a-vis potential adversaries by wholesale shifts in types of forces for the future? Is there merit to semi-submersible "fire ships" which stand off the coastlines of an enemy and deliver accurate and lethal firepower with advanced unmanned systems?

Since we must assume that affordability will remain a key criteria for any new weapons systems, can industry deliver aircraft engines that will support the development of more capable aircraft not dependent upon traditional catapults and arresting gear? Such development would allow the use of less capable flight decks for strike and fighter aircraft-- proliferating the threat to an enemy.

Politico-Military Manoeuvre

There is also a political side to *manoeuvre warfare* doctrine. Castex argues that *manoeuvre* also includes the organization of the overall political-military effort. When gathering the resources for the principal theater, one should also use political influence, propaganda, and other non-military tools. Hence the pact signed by Nazi Germany with the Soviet Union can be seen as a political *manoeuvre* by Germany to ensure that the well-established principle of war "economy of force" was applied to the forthcoming campaign.

Enemy Manoeuvre

Defense against high technology fielded by an enemy is both technological and doctrinal agility. Our forces need to remain capable of multiple responses that are not fixed nor preordained by limited technology and hidebound doctrine. At the strategic and operational-levels of warfare, the lack of agility necessitated by reductions in force structure will soon lead to more predictability on the part of our potential opponents.

Manoeuvre warfare doctrine will probably be the type of doctrine governing many potential enemies. Simply put, by looking at the concepts in reverse, we can see that a wise enemy will attempt to upset our own main efforts by making his attacks in our secondary areas so that we will be unable to mass firepower when we want to. The value of such enemy actions will be measured by the amount of resources diverted from the main effort, the amount of time that such forces are unavailable in the main areas, and the degree to which such actions hinder the enemy's decision-making abilities. We need to study how *manoeuvre warfare* doctrine can, and will, be used against us.

Castex also applied the principle of *manoeuvre* to the function of intelligence. By careful analysis of the budgets of potential enemies, one can uncover the areas of primary effort and those that are secondary. Naturally, one can manipulate such information and thus deny intelligence to an enemy. Such concepts were regularly applied during the Cold War-era.

Conclusions: Must we Spell it *Manövrieren*?

There is a tendency in the United States to view military art and military science as all-encompassing terms that include warfare in all possible dimensions.⁴⁸ At the apex of theoretical studies of military art and military science are books such as Clausewitz's *On War*. Within such books are doctrinal principles which have been accepted by ground forces, but may be totally inappropriate for naval and other forces.⁴⁹

For example, Clausewitz teaches us that the defensive is the stronger form of warfare--despite historical examples to the contrary, such as Julius Caesar's conquests.⁵⁰ A review of naval warfare history also suggests otherwise. A review of air warfare and the theory of nuclear warfare likewise suggests that the offensive form of war is stronger than the defense. Yet we are trapped in a paradigm of military art based upon interior lines of communications that teaches us that the defense is stronger. Perhaps the real issue is that there is a separate and equally important naval art and naval science that parallels military art and military science. The new "maneuver"/*manoeuvre* warfare paradigm needs to include the three-dimensional aspects of warfare in its theory.

In studying historical examples, it is easy to get sidetracked into culturally-biased preconceptions about other Services and nations based upon historical track records of combat prowess. In looking at history and foreign theories of military and naval art, we need not allow such prejudice to influence our thinking. After all, it is not our objective to study combat success, but rather bureaucratic behavior and sound thinking. The Soviet Union had a long-standing history of good military theory, planning, and strategic success, but an equally long record of poor execution at the tactical and operational-levels of warfare. The U.S. Army has studied and adopted much from the Russian model. Similarly, Germany has a long record of sound thinking and good execution at the tactical and operational-levels of warfare with defeat at the strategic level--and we continue to study them today.

The myth of French military performance on the battlefield or of French Army doctrine in no way denigrates the proud combat heritage of the French Navy of the *ancien régime* and the excellent doctrinal development that has long-characterized the French Navy. Unfortunately, most of that story has never been adequately translated into English and internalized by the U.S. Navy officer corps, which views its cultural antecedent as the Royal Navy. Quite frankly, the performance and heritage of the French Army has been allowed to cloud the opinion of U.S. Navy officers about the French Navy in an altogether unwarranted fashion.

In the words of a well-respected scholar, "...France has had little just cause to be ashamed of her navy: the navy may have had some just cause to be ashamed of France."⁵¹ If the U.S. Armed Forces can enthusiastically embrace the Napoleonic concept of *coup d'oeil*, then it can embrace the French concept of *manoeuvre* as well. Perhaps we should use Castex's theories, but spell the word in German--*manövrieren*!

Parts of the U.S. military accepted the concept of "maneuver" warfare over a decade ago. It has officially been adopted by the U.S. Marine Corps and, through the publication of *Naval Warfare*, NDP-1, by the U.S. Navy. "Maneuver" warfare concepts have been embraced by the U.S. Army, but the term has not. The U.S. Air Force has just begun to explore the term and come to grips with what it will mean. Joint and multinational doctrine--which determines how we will actually fight--have not yet embraced "maneuver" warfare. This strongly suggests that "maneuver" warfare is more programmatic doctrine than combat doctrine. If it were combat doctrine for warfighting at the joint and multinational strategic and operational-levels of war, then it would have to be accepted as joint or multinational doctrine as well.

Manoeuvre warfare doctrine is a warfighting doctrine that should be developed by the U.S. Navy regardless of programmatic considerations. Until such time as the U.S. Navy understands *manoeuvre* warfare, it will not be able to come to the table as an equal partner in any discussions of "maneuver" warfare where the examples are dominated by ground warfare considerations. Such a situation would naturally be intolerable.

There is even a more complex reason to master "maneuver"/*manoeuvre* warfare. Currently the U.S. Navy, joint, and multinational doctrine have yet to fully reflect or embrace "maneuver"/*manoeuvre* warfare. Essentially, U.S. Navy, joint, and multinational doctrine are all oriented on "brute force." The military is being asked to consider concepts of warfare based upon the information "revolution" or some new "wave" or style of war. Should, or can, the armed forces skip over the "maneuver"/*manoeuvre* stage and advance directly into some new epoch? Although this is tempting, the risk is that one cannot fully exploit the benefits of the information age without having first mastered the concepts of *manoeuvre* warfare doctrine. After all, "maneuver"/*manoeuvre* warfare doctrine is mostly about how to think about war and plan combat actions. If the next era is information-based, we would be unable to fully exploit this stage unless we had first learned how to get beyond "brute force."

The U.S. Navy has traditionally not been very good at articulating a vision of future warfare. In defense of the U.S. Navy, the record of most large and bureaucratic American

organizations in strategic planning and management of change is similarly tainted. We have an opportunity, today, to change that record by looking forward into the future with a vision of the future battlespace centered around a coherent *manoeuvre warfare* doctrine for naval warfare at sea. What we need to assist in this effort are the bright minds of industry and the analytic community who have been developing alternative concepts to come forward with their ideas for consideration. All new ideas will be presumed to have merit, although clearly not all ideas will survive the review process.

Doctrine development is a process that will accept inputs from any sources. We need the opinions of the fleet, of industry, the analytic community, and academe. We invite their participation in the great debates of the future and await their contribution. Perhaps the introduction of a *manoeuvre warfare* doctrine into the U.S. Navy will be of such importance that it will constitute a "revolution in military affairs."

Notes

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24. Imperial Japanese Navy, *Kaisen yōmurei* [Battle Instructions], Part II "Battle," Chapter 1 "The Essentials of Battle," paragraph 3, circa 1934, contained in Sanematsu Yuzuru, *Kaigun daigaku kyōiku*, Tokyo, Japan: Kōjinsha, 1975, p. 210-241, translated by David C. Evans and provided to the author in February 1995.

25. Thomas B. Buell, "Oral Histories Help Tell the Tale," U.S. Naval Institute Proceedings, 120, no. 7 (July 1994): 47.

26. Hans Delbrück, *History of the Art of War, Volume IV: The Dawn of Modern Warfare*, Walter J. Renfroe, Jr., trans., Lincoln, NE and London, UK: University of Nebraska Press, 1985 [original German version published in 1920], p. 375, 378-380.

27. David C. Evans and Mark R. Peattie, *Kaigun [Navy]: Strategy, Tactics and Technology in the Imperial Japanese Navy, 1887-1941*, August 1994 draft book manuscript, chapter 2.

28. Admiral Raoul Victor Patrice Castex, *Theories stratégiques*, in 5 vols., Paris: Société d'Editions Géographiques, Maritimes et Coloniales, 1929-1935. Volume 2 is the source of Castex's principle thought on *manoeuvre* warfare doctrine.

29. *Strategic Theories*, selections translated and edited, with an introduction by Eugenia C. Kiesling, Annapolis, MD: Naval Institute Press, 1994. Professor Kiesling translated three of nine chapters and an appendix from the critical second volume dealing with *manoeuvre* warfare doctrine. The sections that were not translated by the Professor Kiesling have been translated for the Naval Doctrine Command's internal efforts to gain a better understanding of the concept of *manoeuvre*.

30. Castex had Julian Corbett's *Some Principles of Maritime Strategy* (1911) translated in 1932. See Hervé Coutau-Bégarie, "Corbett and Richmond in France," *Mahan is Not Enough: The Proceedings of a Conference on the Works of Sir Julian Corbett and Admiral Sir Herbert Richmond*, Commander James Goldrick, RAN and John B. Hattendorf, eds., Newport, RI: Naval War College Press, 1993, p. 284.

31. Ronald Chalmers Hood III, *Royal Republicans: The French Naval Dynasties Between the World Wars*, Baton Rouge, LA: Louisiana State University Press, 1985, p. 83-84, 143-146.

32. Bernard Brodie, *A Layman's Guide to Naval Strategy*, London, UK: Oxford University Press, 1943, p. x.

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34. Commander Linton Wells II, USN, "Maneuver in Naval Warfare," *U.S. Naval Institute Proceedings*, 106, no. 12 (December 1980): 34-41.

35. Such a formal division of opinion into two schools of doctrinal thought is not clearly documented in history. On the other hand, from a review of history, it is reasonably clear that there were often two relatively distinct views on doctrine as demonstrated by fleet engagements and courts-martial. Historians have provided names to two "schools" which may not have actually existed in fact, but probably did exist in spirit.

36. Imperial Japanese Navy, *Kaisen yōmurei* [Battle Instructions], Part II "Battle," Chapter 7 "Other Forms of Battle," paragraph 147, circa 1934, contained in Sanematsu Yuzuru, *Kaigun daigaku kyōiku*, Tokyo, Japan: Kōjinsha, 1975, p. 210-241, translated by David C. Evans and provided to the author in February 1995.

37. Such a methodology was employed by the Director of Naval Intelligence in his July 1992 *Strategic Planning for the Office of Naval Intelligence: Visions and Directions for the Future*. For a discussion of the difficulty of translating this vision into programmatic reality, see James J. Tritten, "A Sea of Change for Naval Intelligence: Adjusting to the New Realities," *Naval Intelligence Professionals Quarterly*, Spring 1994, p. 5-7.

38. Hans Delbrück, *History of the Art of War, Volume IV: The Dawn of Modern Warfare*, Walter J. Renfroe, Jr., trans., Lincoln, NE and London, UK: University of Nebraska Press, 1985 [original German version published in 1920], p. 335-337. Montecuccoli had demonstrated his own "maneuver" successes against Turenne in 1673 and 1675.

39. Karl von Clausewitz, *On War*, O.J. Matthijs Jolles, trans., New York, NY: The Modern Library, 1943, p. 209-210.

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41. Toshikazu Ohmae, "The Battle of Savo Island," and associated comment by Admiral Mikawa Gun'ichi, *The Japanese Navy in World War II: In the Words of Former Japanese Naval Officers*, 2nd ed., Annapolis, MD: Naval Institute Press, 1986, p. 242, 244.

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Kōjinsha, 1975, p. 210-241, translated by David C. Evans and provided to the author in February 1995.

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44. Michael Kennedy and Kevin N. Lewis, "On 'Keeping Them Down' or Why Do Recovery Models Recover So Fast?" P-6531, Santa Monica, CA: The RAND Corporation, June 1981, p. 32; and Desmond Ball, "Targeting for Strategic Deterrence," *Adelphi Papers* No. 185, London, UK: The International Institute for Strategic Studies, Summer 1983, p. 29-31.

45. Colonel James L. Whitlow, USMC, "JFACC [Joint Forces Air Component Commander]: Who's in Charge? *Joint Force Quarterly*, no. 5 (September 1994): 64-70.

46. General Colin L. Powell, U.S. Army, Chairman of the Joint Chiefs of Staff, *Doctrine for Joint Operations*, Joint Pub 3-0, 9 September 1993, p. IV-12 through IV-13.

47. Captain Charles C. Pease, USN, "Sink the Navy," *U.S. Naval Institute Proceedings*, 109, no. 9 (September 1983): 30-36.

48. Headquarters, Department of the Air Force, *Basic Aerospace Doctrine of the United States Air Force*, Air Force Manual 1-1 [AFM 1-1], Vol. II, Washington, DC: U.S. Government Printing Office, March 1992, p. 26-28; and Joint Chiefs of Staff, *Joint Warfare of the US Armed Forces*, Joint Publication 1, Washington, DC: National Defense University Press, 11 November 1991, p. 21.

49. Perhaps it is time to spend less time studying "dead Germans." See: Michael A. Palmer, "If Nelson Spoke German," *Military Review*, 69, no. 1 (January 1989): 98-99.

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French Military Mission to SACLANT
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Professor Emeritus
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226 Carr Building - East Campus
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APO AE 09053-0513

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NAS Pensacola, FL 32508-5220

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Naval War College
686 Cushing Road
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Marine Corps University
Marine Corps Combat Development Command (MCCDC)
2076 South Street
Quantico, VA 22134-5021

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Chairman, Department of National Security Affairs
Naval Postgraduate School
Code NS
Glasgow Hall 302 Room 319B
1411 Cunningham Road
Monterey, CA 93943-5100

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Department of History and International Affairs
Royal Naval College Greenwich
London SE10 9NN
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Loyola University of Chicago
6525 N. Sheraton Road
Chicago, IL 60626

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Air War College
325 Chennault Circle
Maxwell AFB, AL 36112-6427

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Code ACSC/AS
School of Advanced Airpower Studies
600 Chennault Circle
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Dean, Center for Naval Warfare Studies
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